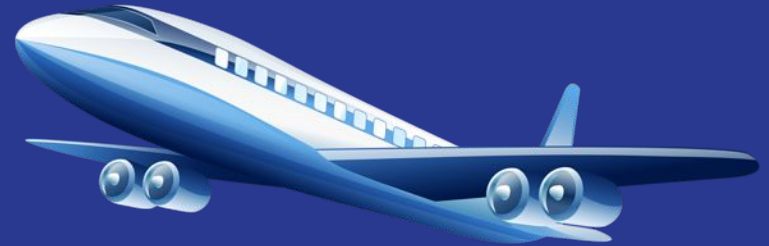


Air Cargo Case Study

Reaching Volume Targets Efficiently



Presented By: Rehman Essani

Overview

Company

Air Cargo is a product distribution company based in Alaska

Deploy two varieties of cargo planes: Alpha and Bravo

Varying maximum load and operating cost.

Context

Different products output varied revenue per kg. distributed

Current cities serviced are Fairbanks, Kodiak, and Nome

Challenge

Optimize distribution by transporting goods via the **shortest route at the lowest cost**

Ensure **volume targets** are being met efficiently

Comparison of Current Aircraft

Alpha

- Larger aircraft
- Maximum capacity: **8,000 kg.**
- Daily operation cost: **\$10,000**
- Current Distribution Routes/Loads:
 - Anchorage -> Nome -> Fairbanks (**1095 mi**)
 - Total Load Revenue: **\$76,000**
- **Net Revenue Per Mile**
 - **\$60.27/mi**

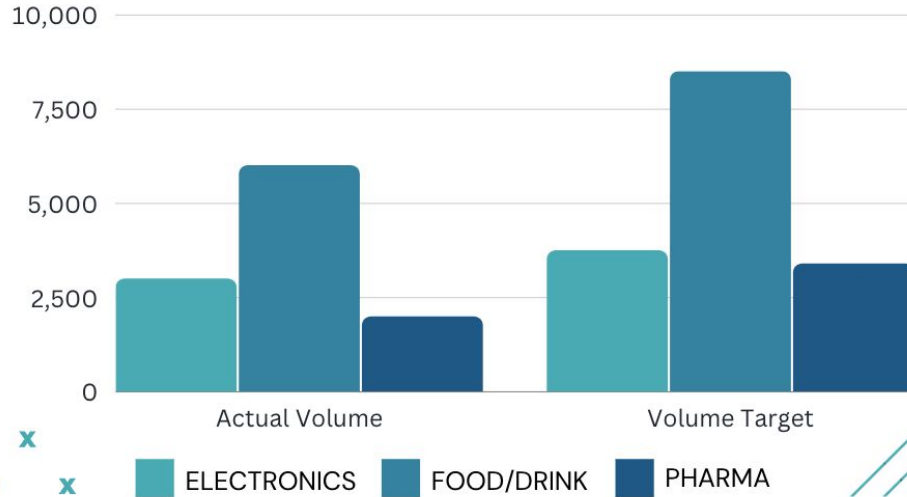
Bravo

- Mid-sized aircraft
- Maximum capacity: **3,000 kg.**
- Daily operation cost: **\$5,000**
- Current Distribution Routes/Loads:
 - Anchorage -> Kodiak (**253 mi**)
 - Total Load Revenue: **\$40,000**
- **Net Revenue Per Mile**
 - **\$138.34/mile**

Volume Analysis

VOLUME TARGETS VS ACTUAL VOLUME (KG)

AIR CARGO



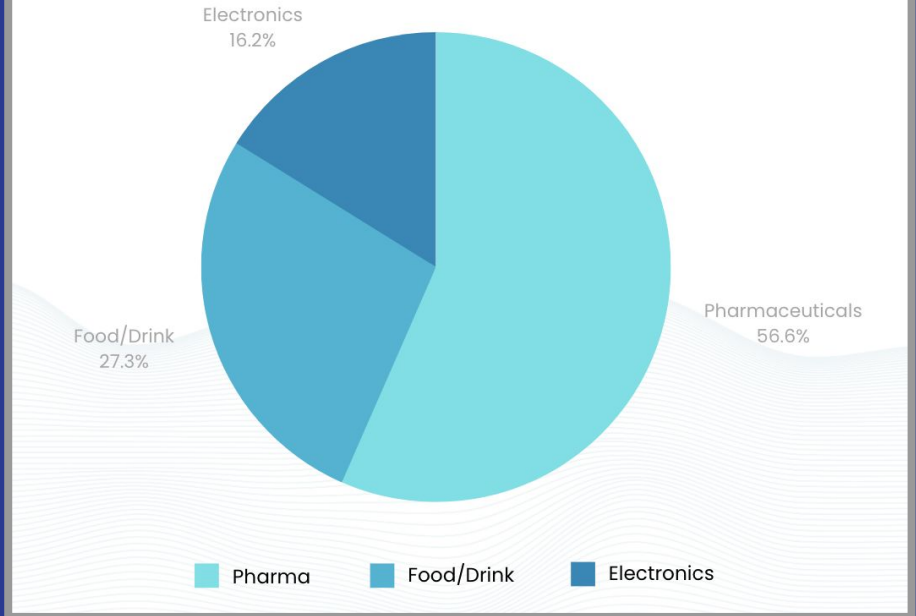
Key Insights

- Volume targets not being met across all products
- All cities are not meeting the targets for **food/drink** and **pharmaceutical** products
- **Food/Drinks** retain the majority of missed potential volume
- However, **Pharmaceuticals** have the highest revenue per kilogram distributed

Revenue Impact

- Total Untapped Revenue: **\$54,800**
- **Pharmaceuticals** retain the majority of untapped revenue (56%)
- **Fairbanks (43.4%), and Nome (43.1%)** share the majority of untapped revenue among cities

Untapped Revenue Across All Products



Solution

Decrease distance, increase revenue

Modify Alpha's current route to be a shorter distance, increasing net revenue per mile

Prioritize meeting targets for pharmaceutical products on both planes, increasing overall revenue

Implementation

Alpha Modifications

Current Route

Anchorage

Nome

Fairbanks

1095 miles
\$60.27/mile

Modified Route

Anchorage

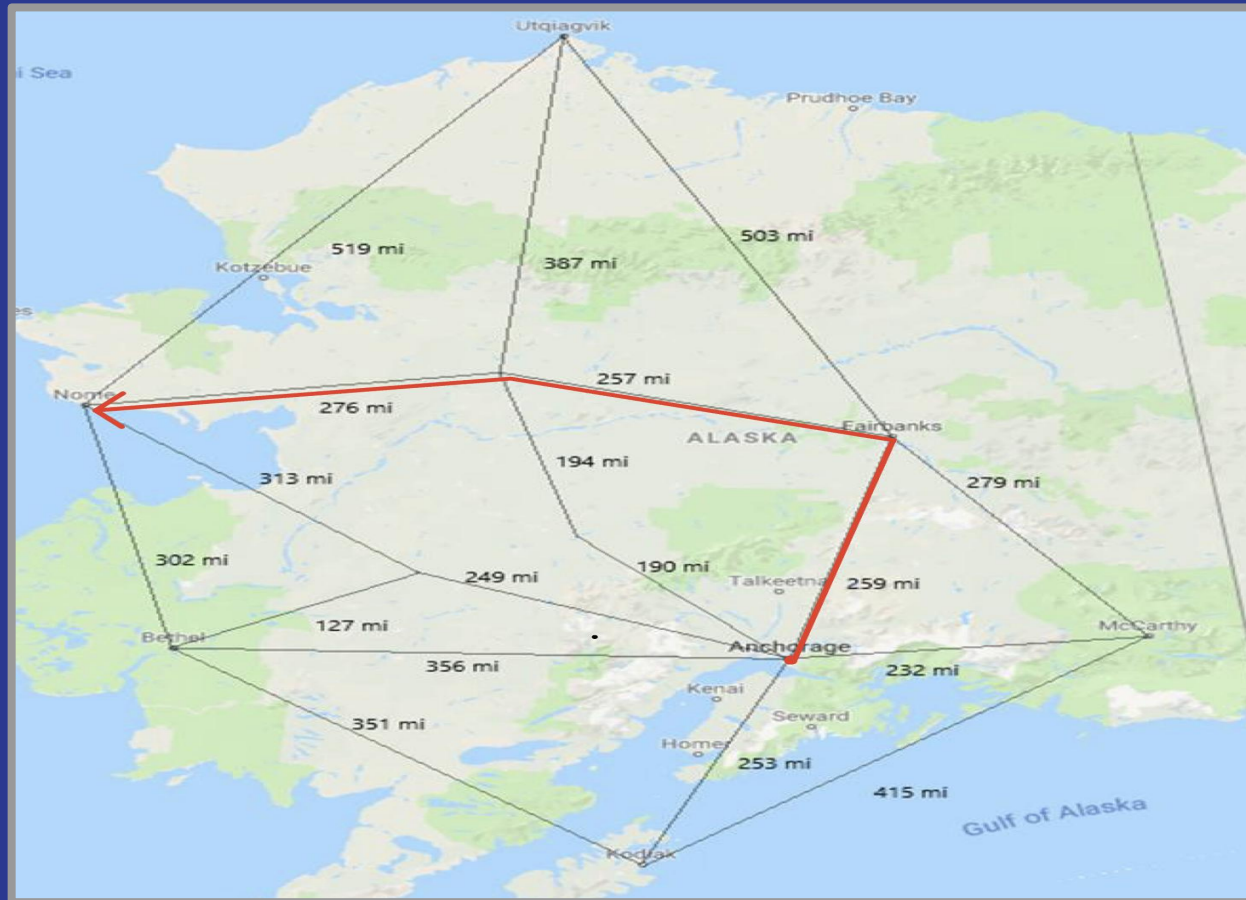
Fairbanks

Nome

792 miles
\$83.33/mile

38% Increase in Alpha's Net Revenue Per Mile

Alpha's Modified Route



Alpha Modifications

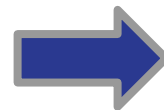
Current Load(kg)

Fairbanks

Electronics	Food/Drink	Pharma
1250	2000	500

Nome

Electronics	Food/Drink	Pharma
750	3000	500



792 miles
\$83.33/mile

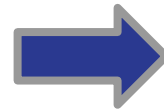
Modified Load(kg)

Fairbanks

Electronics	Food/Drink	Pharma
1250	1600	900

Nome

Electronics	Food/Drink	Pharma
750	2200	1300



792 miles
\$120.20/mile

99% Increase in Alpha's Net Revenue Per Mile

(compared with original revenue per mile)

Bravo Modifications

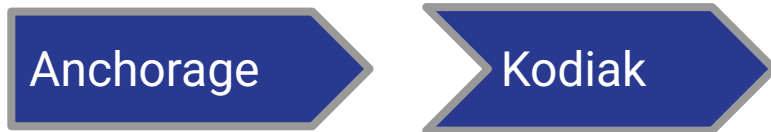
Current Load(kg)



Electronics	Food/Drink	Pharma
1000	1000	1000

253 miles
\$138.34/mile

Modified Load(kg)



Electronics	Food/Drink	Pharma
1000	800	1200

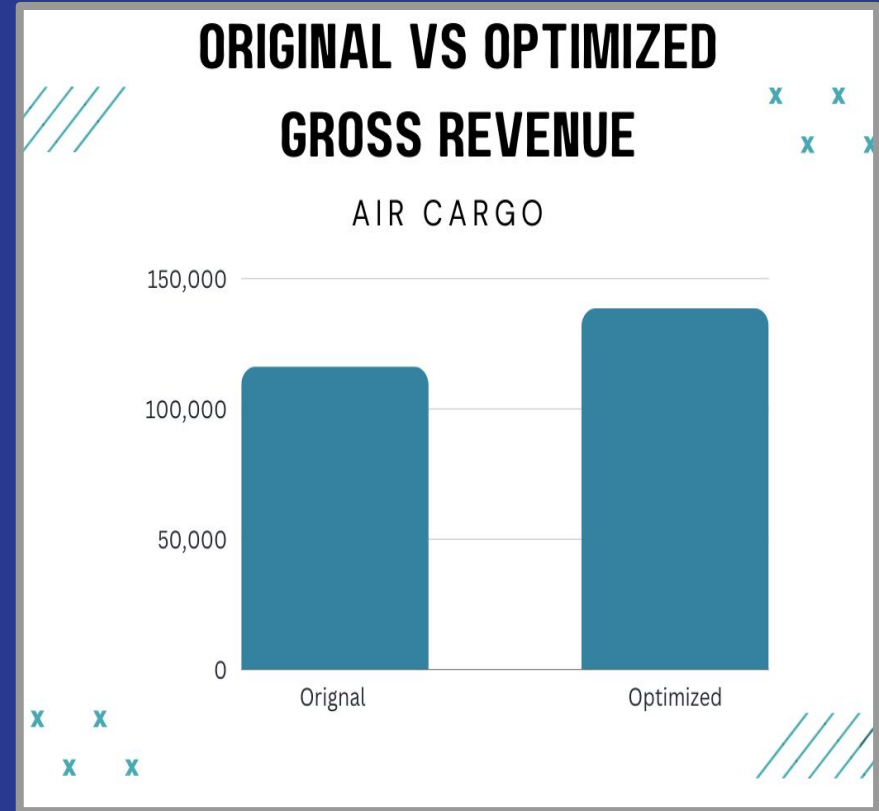
253 miles
\$170.75/mile

23% Increase in Bravo's Net Revenue Per Mile
Pharmaceutical Target in Kodiak Satisfied

Impact

20% revenue increase

All pharmaceutical targets met



Thank you!

**Questions or
Comments?**